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## **Goal disengagement in emerging adulthood: The adaptive potential of action crises**

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**Abstract:** In emerging adulthood, being committed to and making progress on important personal goals constitutes a source of identity and well-being. Goal striving, however, does not always go without problems. Even though highly committed to a goal, individuals may experience recurring setbacks and, consequently, increasing doubts about the goal that might culminate in an action crisis, that is, an intra-psychic decisional conflict about whether to disengage from or to continue on their way. Action crises have been shown to lead to negative consequences on well-being and performance. Besides these negative consequences, however, an action crisis is hypothesized to have an adaptive side that is addressed in the present paper. Actively questioning the pursuit of a goal should allow for weighing up the focal goal against alternative and possibly more desirable goals. This open-minded re-evaluation, in the event of goal disengagement, is assumed to avoid the emergence of action crises in subsequently formed goals. As expected, in a longitudinal study over one and a half years with  $n = 207$  freshman students, the degree of experienced action crisis prior to goal disengagement predicted the desirability and decisional certainty of the subsequently formed alternative goal. Theoretical implications of the results for research on self-regulation and identity formation in emerging adulthood are discussed.

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Goal Disengagement and Action Crises

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## GOAL DISENGAGEMENT AND ACTION CRISES

### Abstract

Persistence in pursuing one's goals represents a core aspect of successful goal striving. However, when striving for a goal becomes unrealistic or too troublesome, disengagement from the goal is imperative. Goal disengagement, after having been introduced in one of Klinger's (1975) early works, for decades only aroused little interest in motivation psychology. In social and organizational psychology, on the contrary, researchers dealt with an instance of goal disengagement failure termed *entrapment* or *escalation of commitment*, respectively, from a perspective of economic decision making (Brockner, 1992; Staw, 1997). Lately, several approaches to analyze the dynamics of goal disengagement have been developed from a life span perspective (J. Heckhausen, Wrosch, & Schulz, 2010). In the present chapter, we first summarize the literature on goal disengagement and second present our own account on goal disengagement processes in personal goals. With the concept of an *action crisis*, we pinpoint the critical phase in which individuals have already invested a great deal into their goal, but suffer from a substantial loss in the perceived attainability (e.g., due to setbacks) and/or desirability of the goal, and thus become caught between further goal pursuit and disengagement from the goal. We present our empirical work on antecedents as well as cognitive, affective, and behavioral consequences of action crises.

*Keywords:* motivation, goal disengagement, action crisis, well-being, self-regulation, mindset

**Goal Disengagement: An Important but Neglected Issue in Motivation Psychology**

Pursuing an unsuccessful course of study, clinging to an unattainable vocational goal, living in an unhappy intimate relationship, investing in an unprofitable economic endeavor, or insisting upon a calamitous political decision – examples from all different life contexts illustrate that goal strivings, even if well-intentioned and tenaciously pursued, can go astray and, at a certain point, inevitably raise the question whether to stop or to go. Indeed, at times, disengagement from an unfruitful goal is as important a self-regulatory strategy as showing persistence, which, undoubtedly, is a core aspect of successful goal striving (Feather, 1962; J. Heckhausen & Heckhausen, 2010a). If the pursuit of a goal becomes increasingly unrealistic or too troublesome, goal disengagement is imperative (Brandstätter, 2003; Brandtstädter, 2007; Wrosch, Scheier, Carver, & Schulz, 2003). The inability to disengage from such unattainable and/or difficult goals is not merely associated with losses in self-regulatory efficiency (Kuhl, 1992) but likewise with impairments in health and well-being (e.g., Carver & Scheier, 1990; Carver & Scheier, 2005; Wrosch, Miller, Scheier, & Brun de Pontet, 2007).

Despite its great relevance for self-regulation and well-being, since Eric Klinger's (1975, 1977) early writings on the *commitment to and disengagement from incentives*, goal disengagement had not been an issue of interest in motivation psychology for several decades. But why so? Clearly, there is a social norm to persist even in the face of adversities. A saying by the legendary US American football coach Vincent Lombardi, "Winners never quit and quitters never win", reveals how much importance is attached to tenacious goal pursuit in Western societies. That goes without saying, by letting go a goal, one can be sure that one won't ever reach it, whereas by sticking to a goal, there remains (though sometimes only slight) hope to

reach it. But even if chances to reach a goal are negligibly small, the person is at least still engaged and active, focusing her/his attention on specific contents (Brunstein, Schultheiss, & Maier, 1999). Disengaging from an important personal goal, on the contrary, might leave her/him with empty hands, she/he might sit and wait for the future to come if she/he does not actively (and successfully) search for an alternative goal (Brunstein, 1993; Wrosch, Scheier, Miller, Schulz, & Carver, 2003).

Goals imbue our lives with meaning, structure our day, and form the basis for self-development (Austin & Vancouver, 1996; Moskowitz & Grant, 2009). From an evolutionary perspective, without constantly keeping on trying, even (or especially) in the face of difficulty, there would be no chance ever to develop one's skills and competencies, reach challenging and rewarding goals or even, on a more general level, secure survival. Hence, lacking persistence seems to be the bigger problem than excessive tenacity (J. Heckhausen & Heckhausen, 2010a). Accordingly, there are several basic psychological principles that foster persistence in goal striving (J. Heckhausen, 2000). Just to name two: First, ontogeny favors persistence by a differential development of affective reactions to success and failure, the former developing earlier than the latter (for a summary, see J. Heckhausen & Heckhausen, 2010b). For example, being able to indulge in a success and, at the same time, not being doomed to suffer from a failure, supports a child in keeping on learning a new competency (e.g., finding one's feet). Second, after a goal has been set, specific self-regulatory (volitional) mechanisms (e.g., action control strategies; Kuhl, 1984; implemental mindset; Gollwitzer, 1990, 2012; implementation intentions; Gollwitzer & Sheeran, 2006) are in action, which support successful goal achievement by tuning cognition in a goal-congruent way (e.g., having an optimistic outlook on

the goal, perceptual and behavioral readiness with respect to suitable opportunities for goal-directed action).

Despite the long-lasting neglect of problematic persistence and (failing) goal disengagement in motivation psychology, the phenomenon has received considerable attention in related areas beginning in the 1970s and, more recently, has also become an issue of interest in research on goal striving. In the following, we first present research related to goal disengagement from related fields, and second discuss recent theoretical developments addressing goal disengagement in the realm of personal goals. Eventually, we will introduce our concept of an *action crisis*, which we conceive of as a significant phase related to goal disengagement, and present a series of studies documenting the validity of the concept.

### **Goal Disengagement in Related Fields**

#### **Entrapment and escalation of commitment.**

Social and organizational psychology are rich in literature (for summaries, see Brockner, 1992; Staw, 1997) dealing with an instance of goal disengagement failure termed *entrapment* or *escalation of commitment*, respectively, whereby entrapment has been defined as “a decision making process whereby individuals escalate their commitment to a previously chosen, though failing, course of action” (Brockner & Rubin, 1985, p. 5) and escalation of commitment as “a tendency to become locked into a course of action, throwing good money after bad or committing new resources to a losing course of actions” (Staw, 1981b, p. 578). Though originally stemming from two independent research traditions, either with a focus on fundamental psychological processes investigated in laboratory experiments (entrapment), or with an applied focus in the organizational domain using also field studies in applied contexts

(escalation of commitment), there are considerable similarities between these two approaches: First, entrapment and escalation of commitment refer to situations in which an individual has committed herself/himself to an initially promising endeavor and has already invested considerable resources (e.g., money or time). Although these investments have turned out to be futile, the individual sticks to the endeavor committing more resources to it. Second, the (experimental and field) research focuses primarily on decisions that involve economic resources. Third, both approaches mainly draw on *prospect theory* (Staw, 1981a) or *self-justification (dissonance) theory* (Festinger, 1957; Staw, 1976) in explaining entrapment/escalation of commitment. According to the explanation based on prospect theory, decision makers construe negative outcomes as losses what results in higher risk seeking (cf. loss aversion; Kahneman & Tversky, 1979), and, consequently, higher further investments. The self-justification explanation suggests that people escalate their commitment in order to avoid the negative consequences associated with disengaging from the questionable endeavor. Stopping the costly course of action would mean admitting to an initial flawed decision, what would create cognitive dissonance. Sticking to an economically failing course of action is explained by the non-monetary, psychological costs of goal disengagement, that is, the expected negative affective state (cognitive dissonance) that outweighs the costs of continuing the endeavor. Surprisingly, theoretical concepts from research on self-regulation in goal striving have not been considered so far with respect to entrapment/escalation of commitment.

More recent research in the realm of entrapment/escalation of commitment focuses on information processing (Schultze, Pfeiffer, & Schulz-Hardt, 2012) and the role of affective processes (Wong & Kwong, 2007; Wong, Yik, & Kwong, 2006; Zhang & Baumeister, 2006) in

escalation of commitment. For example, Schultze et al. (2012) showed that the tendency to recommit further resources to losing courses of action is mediated by a biased evaluation of information about success vs. failure of the chosen course of action. More concretely, participants who had made a first (unprofitable) investment decision valued information in favor of further investments more positively than participants who were not responsible for the first investment. Moreover, Wong and colleagues as well as Zhang and Baumeister (2008) stressed the importance of emotional aspects of escalating situations (e.g., trait or state negative affect, threatened self-esteem). For example, Zhang and Baumeister (2008) reported that participants who had been experimentally confronted (vs. not confronted) with an ego threat were more prone to become entrapped in a fruitless endeavor.

In sum, entrapment/escalation of commitment research stresses the conflict a decision maker faces between the calamities associated with further pursuing a goal and the negative consequences (cognitive dissonance, threatened ego) of letting it go. Besides, it is evident that cognitive as well as affective processes are involved in entrapment/escalation of commitment.

Another area of research of high relevance to issues of goal disengagement stems from a social-cognitive analysis of unfulfilled goals that, again, puts an emphasis on cognitive processes.

### **A social-cognitive analysis of unfulfilled goals.**

Research from cognitive, social, and motivation psychology has demonstrated that unfulfilled goals are associated with an increased cognitive accessibility of goal-related constructs (Anderson, 1983; Förster, Liberman, & Higgins, 2005; Goschke & Kuhl, 1993; Kuhl & Kazen-Saad, 1988; Marsh, Hicks, & Bink, 1998; Martin & Tesser, 1996; Wyer & Srull, 1986;



Zeigarnik, 1938). For example, in a set of studies on the accessibility of goal-related concepts, Förster et al. (2005) showed that when looking through a series of pictures with the goal of finding a picture of glasses, words (e.g., read, professor, sun) that are semantically related to the goal object (i.e., glasses) are cognitively highly accessible. Similar results were found in an experimental study reported by Martin, Tesser, and McIntosh (1993). Participants, in the first phase of the experiment, had either reached vs. not reached an important goal (e.g., demonstrate one's intelligence) and afterwards, in the second phase of the study, worked on a lexical decision task that contained intelligence-related and neutral words. As predicted, unfulfilled goal participants reacted faster to intelligence-related but not to neutral words than fulfilled goal participants. Whereas in the Förster et al. (2005) study participants were just on the way to their goal of finding the critical picture (i.e., glasses), Martin et al.'s participants had experienced a setback in striving for the goal of demonstrating one's intelligence. Obviously, semantically related material becomes highly accessible if a goal has not been reached, whether it is because the goal has not yet been attained, or because goal striving was not successful. The heightened cognitive accessibility of material related to an unfulfilled goal could represent an important starting point for understanding the dynamics of (failing) goal disengagement.

Whereas the research presented so far is mostly based on economic decisions or experimental tasks, another strand of research has been devoted to disengagement from everyday personal goals.

### **Goal Disengagement in the Realm of Personal Goals**

**Klinger's analysis of the commitment to and disengagement from incentives.**

With his seminal work on the dynamics of commitment to personal goals (current concerns), Klinger (1975, 1977) was one of the first to deal with the issue of disengagement from personal goals. According to Klinger, whenever a goal is no longer attainable, a four-phase sequence of events starts, the so-called *incentive-disengagement cycle*. First, the individual will try harder to grip his/her goal (*invigoration*). If these efforts fail, a phase of anger and aggressive behavioral impulses will arise (*aggression*), which is followed by resignation and an inner distancing from the goal (*depression*). In the final phase, commitment to the respective goal is dissolved and the individual is open to become committed to new goals (*recovery*). Although Klinger's model has never been tested empirically, it is of high heuristic value as it points to several core aspects of goal disengagement that a scientific analysis would have to make allowance for. First, goal disengagement is a *process* rather than a discrete event. Hence, the psychological processes relevant to goal disengagement start well before an individual finally gives up a striving. Second, disengaging typically is a highly emotional process whereby the negative emotions and feelings of doubt resulting from recurring setbacks are of *functional value* to the reorganization of one's goal system, by enabling the relinquishment of unattainable goals and thereby the re-engagement in alternative goals (Nesse, 1998).

How goal disengagement processes, as described by Klinger (1975, 1977), are affected by an individual's self-regulatory capacities and therefore systematically vary between individuals, is outlined in the following section.

#### **An individual differences perspective on goal disengagement.**

Interindividual differences in self-regulatory processes underlying the decision to disengage from or further pursue a goal (e.g., in the face of seemingly insurmountable obstacles

and/or severe setbacks) are, to some extent, attributable to dispositional tendencies. Three of the most important dispositional approaches to the phenomenon of goal disengagement are summarized below.

***The dual-process model of assimilative and accommodative coping.*** As, in everyday life, not all difficulties in the pursuit of a goal can be dealt with and eventually resolved by compensatory efforts, alternative strategies, or adjustments in lifestyle, Brandtstädter and Renner (1990) have drawn attention to the adaptive significance of the capacity to re-evaluate and reorder one's priorities (i.e., preferences and aspirations) in the light of changing circumstances, missed opportunities, and/or permanent losses (cf. *A life-span perspective: Age-related differences in goal disengagement*). Accordingly, adaptive self-regulation has been hypothesized to result from a context-sensitive balance between two antagonistic but *complementary* coping strategies: *Assimilation* is characterized by instrumental activities, self-corrective actions (e.g., modification of behavior patterns), and compensatory measures (e.g., acquisition of new skills) aimed at modifying the present situation (*active solution of the problem*), whereas *accommodation* as an alternative way to resolve discrepancies between one's expectations and future prospects is conceptualized as the adjustment (e.g., lowering the level of aspiration) or redefinition of a particular personal goal (*neutralization of the problem*) (Brandtstädter & Renner, 1990; Brandtstädter & Rothermund, 2002).

The adoption of assimilative and accommodative strategies has been operationalized as an individual difference variable with the two independent (i.e., orthogonal) scales *Tenacious Goal Pursuit (TGP)* (e.g., "If I run into problems, I usually double my efforts." [assimilation]) and *Flexible Goal Adjustment (FGA)* (e.g., "After a serious disappointment, I soon turn to new

tasks.” [accommodation]), both of which consist of 15 items (Brandtstädter & Renner, 1990). If, in the course of goal pursuit, setbacks are experienced and obstacles encountered, individuals who dispose of self-regulatory capacities, as a first step, typically explore the instrumentality of an array of assimilative strategies. To the extent that the respective assimilative attempts prove ineffective and depending on situational parameters (e.g., perceived controllability), complementary accommodative strategies are employed to reconcile personal preferences with situational constraints and thereby shield self-esteem and well-being from the effects of personal failures and setbacks. Correspondingly, Boerner (2004) found that (middle-aged and older) individuals who had accommodative coping strategies available suffered less from age-related (and thus permanent) effects of vision loss on mental health. Likewise, Schmitz, Saile, and Nilges (1996) reported an individual’s capacity for accommodative coping to prevent chronic pain, which is construed as an ever-present threat to the achievement of personal goals, from undermining mental health and a positive perspective on life.

Despite functional interdependence (i.e., reciprocal inhibition), assimilation and accommodation do *not* represent mutually exclusive and successively entered stages in a problem-solving process. On the contrary, optimal development has been posited to arise from the dynamic and synergistic implementation of assimilative and accommodative strategies, an interplay that sometimes requires both strategies to be adopted simultaneously.

As assimilation and accommodation, although in opposite ways, ultimately lead to a sense of continuity, efficiency, and cognitive consistency, both scales are independently associated with well-being across all age levels (Brandtstädter, Rothermund, Kranz, & Kühn, 2010, p. 152; cf. Boerner, 2004). In line with theory, accommodation, by means of “uplifting

thoughts and palliative reappraisals” (Brandtstädter & Rothermund, 2002, p. 138), has furthermore been reported to reduce (a) the subjective severity as well as (b) the adverse impact of losses, impairments (e.g., chronic pain; cf. above), failures, and interpersonal conflicts (e.g., marital distress) on health and well-being (Brandtstädter & Felser, 2003; Brandtstädter & Renner, 1990; Brandtstädter, Wentura, & Greve, 1993; Frazier, Newman, & Jaccard, 2007; Schmitz et al., 1996). Well-being, thus, is not merely “a matter of getting what you want . . . [but] wanting what you have” (Myers & Diener, 1995, p. 13).

Notably, by providing individuals in difficult times with new perspectives, accommodative processes not merely facilitate the disengagement from unattainable goals and the adoption of new commitments but may lead to an identity crisis that results in a change in the way how individuals think of themselves and the world. As the modification of the structure of an individual’s belief system is accompanied by an “intermediate stage of disorganization and disorientation” (Brandtstädter & Renner, 1990, p. 59), accommodation (or rather the shift from an assimilative to an accommodative mode of coping), at least temporarily, may cause painful emotions (Klinger, 1975).

***Goal disengagement and goal reengagement capacities.*** Whereas the accommodation concept includes both “[a] the dissolving of barren attachments and [b] the channeling of assimilative energies toward new, feasible goals” (Brandtstädter & Rothermund, 2002, p. 123), Wrosch and colleagues (Wrosch, Scheier, Miller, et al., 2003), in clear contrast to Brandtstädter and Renner (1990), have underscored and empirically demonstrated the importance of *differentiating* between goal disengagement and goal reengagement capacities. These *goal adjustment capacities*, measured by the *Goal Disengagement and Goal Reengagement Scale*<sup>1</sup>

(Wrosch, Scheier, Miller, et al., 2003, p. 1497), have been proven to reflect two (largely) independent dimensions of personality. *Goal disengagement* is measured with four items and defined as an individual's tendency to withdraw (a) *behavioral efforts* (e.g., "If I have to stop pursuing an important goal in my life [generic stem of all items], it's easy for me to reduce my effort toward the goal.") as well as (b) *psychological commitment* (e.g., "... it's easy for me to stop thinking about the goal and let it go") from unfeasible goals. *Goal reengagement*, on the other hand, is assessed with a six-item scale and conceptualized as the capacity to (a) *identify* (e.g., "...I seek other meaningful goals."), (b) *commit to* (e.g., "... I convince myself that I have other meaningful goals to pursue."), and (c) *start pursuing new goals* (e.g., "... I start working on other new goals.") in the face of unattainable goals (Wrosch, Scheier, Miller, et al., 2003).

The primary focus of the studies conducted by Wrosch and colleagues (Wrosch, Scheier, & Miller, 2013), analogously to the previously outlined research interests of Brandtstädter (2009), has lied on the effects of adaptive self-regulation on health and well-being, whereby the effects of goal adjustment capacities on measures of well-being have been shown to remain when controlling for the adoption of accommodative strategies (FGA; Brandtstädter & Renner, 1990; Wrosch, Scheier, Miller, et al., 2003). The incremental predictive validity of goal adjustment capacities over and above accommodative strategies is most likely due to an increased level of differentiation of the accommodation concept. Evidence in support of this hypothesis comes from a multitude of studies that have (a) confirmed the differential validity of goal disengagement and goal reengagement capacities and (b) revealed a complex context-sensitive and age-related *interactive* relationship between the two constructs in the prediction of health and well-being (e.g., Wrosch, Bauer, & Scheier, 2005; Wrosch, Scheier, Miller, et al., 2003). A

brief overview of the respective results is provided below. A more detailed summary is given by Wrosch (2011) and Wrosch et al. (2013).

Goal disengagement, by reducing the subjective severity of losses (e.g., in old age; Dunne, Wrosch, & Miller, 2011) and preventing repeated failure when faced with limited prospects of success, has been shown to alleviate emotional distress (e.g., depressive symptoms; Wrosch, Amir, & Miller, 2011; Wrosch & Miller, 2009; Wrosch, Scheier, Miller, et al., 2003) and, thereby, decrease the vulnerability to physical health problems (Castonguay, Wrosch, & Sabiston, 2014; Miller & Wrosch, 2007; Wrosch et al., 2007). Goal reengagement, on the contrary, is primarily related to “positive aspects of subjective well-being” (e.g., purpose in life; Wrosch, 2011, p. 329) because the pursuit of (new) personal goals lends structure, stability, and continuity, meaning and purpose to an individual’s life (Moskowitz & Grant, 2009).

Goal disengagement and goal reengagement are largely independent adaptive capacities that may have developed to different degrees in individuals (i.e., in one and the same person). The adaptive potential of a specific combination of attributes depends primarily on the specific (life) circumstances (e.g., physical health or age). Whereas, for example, the availability of *both* goal adjustment capacities has been proven most adaptive for breast cancer survivors (Wrosch & Sabiston, 2013), goal disengagement is less functional if individuals (e.g., in old age) do not have alternative goals at their disposal (i.e., low goal reengagement capacities). Compared with having nothing to pursue in life, being committed to an unattainable goal seems to be *the lesser of (the) two evils* (Wrosch, Scheier, Miller, et al., 2003).

***A functional perspective on goal disengagement: The role of action vs. state orientation.*** Action (vs. state) orientation (Kuhl, 1994b), that is, an individual’s capacity to

intuitively (i.e., without intention) and therefore unconsciously (i.e., outside of awareness) regulate affective states under demanding and threatening circumstances is of key importance for the process of disengaging from personal goals. The reasons for the pivotal role (that the regulation of) affective states (and thus action orientation; Kuhl, 1994b) play in the goal disengagement process are illustrated in the following paragraphs. A more detailed account is provided by Jostmann and Koole (2009).

If the pursuit of a self-relevant goal is more and more characterized by obstacles and setbacks, whereby the prospects of success become progressively poorer, negative affect, as part of an “alert response”, is increased and/or positive affect decreased. Whereas, in the case of goal failures, increased negative affect (or threat) is typical of *ought goals* (i.e., duties and responsibilities), a decrease in positive affect (or demands) is more likely associated with *ideal goals* (i.e., hopes and aspirations), even though positive and negative affect are (to some extent) interdependent (Higgins, 2009; Jostmann & Koole, 2009). Consequently, the focus of attention (i.e., the capacity of working memory; Baddeley, 1986) is primarily and consciously directed to the problematic goal pursuit and analytical and sequential reasoning is applied. Parallel-holistic and intuitive processing (and behavior), on the contrary, is suppressed, and access to more general knowledge structures restricted (Freitas, Clark, Kim, & Levy, 2009; Vallacher & Wegner, 2012). As long as the problematic goal cannot be brought “back on track”, the goal is explicitly represented and places heavy demands on the capacity of working memory (e.g., owing to the suppression of unwanted negative goal-related thoughts). Sustained goal activation, therefore, by depleting working memory capacity and thereby an individual's self-regulatory



(e.g., attentional) resources may pose a threat to health and well-being, especially in the long run (Baumeister, 2002; Klein & Boals, 2001).

According to the *theory of personality systems interactions* (PSI theory; Kuhl, 2000a), within the framework of which the adaptive potential of action orientation has been delineated, the modes of information processing, as described above, are mainly attributable to the activation (or rather configuration) of four cognitive macro-systems, whereby “affects modulate the (antagonistic) dynamic relationships between [these] macro-systems” (Kuhl, 2000a, p. 135). Increased negative affect, in the case of goal failures, activates the low-level and discrepancy-sensitive *object recognition (OR)* system that is characteristic of analytical bottom-up processing (i.e., *retrospective* problem analysis), whereas the inhibition of positive affect is associated with an activation of the *intention memory (IM)*, wherein difficult goal-related intentions are explicitly (i.e., consciously) represented, the (*prospective*) planning of which requires high-level (i.e., top-down) sequential-analytical operations. As long as positive affect is reduced and the IM activated, the enactment of intentions is inhibited. OR and/or IM, thus, are responsible for a sustained goal activation as outlined in the previous paragraph. The high-level *extension memory (EM)*, by contrast, which is inhibited by negative affect, is typical of intuitive and parallel-holistic top-down processing, operates largely on unconscious levels, and provides access to general knowledge structures, that is, “the repository for extended networks of remote semantic associations such as meaningful experiences, options for action, personal values, and many other aspects of the ‘integrated self’” (Kuhl, 2000b, p. 670). Whereas reduced negative affect allows access to the EM, the *intuitive behavior control (IBC)* system is activated by increased positive affect. IBC, as EM, is characterized by parallel-holistic processing, even though on lower level

(i.e., bottom-up), and “provides routines for performing an intended action, thereby controlling behavioral implementation of intentions” (Kuhl, 2000b, pp. 667-668).

From a functional perspective, goal disengagement, on the most basic level, requires an individual to reduce goal activation in working memory and to shift the focus of attention *away* from (information related to) the unattainable goal and towards desirable alternative, more realistic goals (Jostmann & Koole, 2009). However, *deliberate* efforts to control the focus of attention (e.g., thought suppression) are typically counterproductive (cf. postsuppression rebound effect; Wenzlaff & Wegner, 2000). Therefore, Jostmann and Koole (2009), based on PSI theory (Kuhl, 2000a) and in line with the accommodation concept of Brandtstädter and Renner (1990), have hypothesized that the “updating of working memory” (p. 342) involves *non-intentional* processes. More specifically, the revision, replacement, and/or relinquishment of an unattainable goal is assumed to depend on the activation of and information exchange between two of the previously described cognitive networks, IM and EM. The importance of the general knowledge structures of the EM (to the updating of working memory) is attributable to the integrated representation of motivational preferences, wherefore a decision (e.g., goal disengagement), as the result of *intuitive* parallel-holistic processing, is arrived at on the basis of all available information. Analytical thinking, which is characteristic of the IM and OR, facilitates problem identification and analysis as well as the maintenance of difficult intentions in working memory but is not ideally suited to find an adaptive answer to a complex problem that takes into account the multitude of needs, inner values, and autobiographical experiences. As the top-down and intuitive parallel-holistic processing mode of the EM and the access to general knowledge structures requires negative affect to be down-regulated, updating working memory, that is,

revising, replacing, and/or relinquishing a goal (in the IM), is enabled by affect modulation. The key to adaptive goal disengagement, hence, lies in the regulation of basic affect, a volitional ability that has been operationalized by the (one-dimensional bipolar) construct *action vs. state orientation* (Kuhl, 1994b) and is measured by the *Action Control Scale* (ACS-90; Kuhl, 1994a).

The ACS-90 (Kuhl, 1994a) consists of two subscales assessing decision- (AOD vs. SOD) and failure-related (AOF vs. SOF) action vs. state orientation. Thereby, the decision-related subscale focuses on the tendency to display initiative and decisiveness (vs. hesitation and indecisiveness) in demanding situations (*self-motivation*), a capacity that is facilitated by the up-regulation of positive affect. The failure-related dimension, by contrast, captures an individual's ability for disengagement (vs. preoccupation) in situations associated with frustration and self-esteem threats (*self-relaxation*) and thus requires the down-regulation of negative affect. Both subscales contain 12 statements describing a stressful situation (e.g., [1] "When I know I must finish something soon.", [2] "When I'm in a competition and have lost every time.") followed by an action-oriented (e.g., [1<sub>AOD</sub>] "I find it easy to get it done and over with.", [2<sub>AOF</sub>] "I can soon put losing out of my mind.") and a state-oriented (e.g., [1<sub>SOD</sub>] "I have to push myself to get started.", [2<sub>SOF</sub>] "The thought that I lost keeps running through my mind.") way of coping.

The critical role action orientation plays in the regulation of affective states has been emphasized by a considerable number of empirical studies. Jostmann, Koole, van der Wulp, and Fockenberg (2005), for example, reported that action-oriented individuals (in contrast to state-oriented individuals) are not affected by negative subliminal primes (i.e., schematic angry, neutral, or happy faces), a result that points to a mechanisms that, even outside of conscious awareness, reduces negative affect (see also Koole & Jostmann, 2004). Likewise, H. Heckhausen

and Strang (1988) found action-oriented (in comparison to state-oriented) semi-professional basketball players not merely to show reduced physiological arousal (i.e., lactate concentration) under pressure to perform but no achievement deficits (i.e., hit rate). In a similar vein, the performance level of action-oriented (vs. state-oriented) individuals, on a behavioral level, was not impaired by preceding failures (de Lange & van Knippenberg, 2009; Kuhl, 1981) what attests to the capacity to get over (i.e., disengage from) negative experiences and devote oneself to new tasks.

Negative affect (as an *evaluative response*) in the aftermath of the occurrence of difficulties in the pursuit of a goal not merely (at least temporarily) *disables* updating working memory, but at the same time indicates the necessity for revising, replacing, and/or relinquishing the respective goal (*regulatory response*), processes that *require* the working memory to be updated (Jostmann & Koole, 2009). Thus, a prototypical adaptive reaction (in the case of goal failure) may be characterized by a transition from the (bottom-up) *analytical* problem identification (*high negative affect / OR*) to an *intuitive* (top-down) reconciliation (and thereby resolution) of the problem with implicit self-representations and motives (*by down-regulating negative affect / EM*). Thereafter, these implicit self-representations may give rise to an explicit (top-down) representation of goal-related future actions (*IM*) that, by *up-regulating positive affect*, lead into the intuitive enactment of intentions (*OR*). These transformations in the mode of information processing, a prerequisite for adaptive self-regulation, are enabled by an individual's capacity to intuitively regulate basic affect (i.e., action orientation; Kuhl, 2000a).

Kuhl (1992, 2000a), in contrast to and over and above Wrosch (2011) and Brandtstädter (2009), has developed a theory that, from a functional perspective, concisely explains the

cognitive and affective mechanisms underlying adaptive goal disengagement. For a more detailed overview of empirical evidence in support of the role action orientation plays in the regulation of affect and adaptive goal disengagement, see Baumann, Kaschel, and Kuhl (2007) and Jostmann and Koole (2009).

**A life-span perspective: Age-related differences in goal disengagement.**

Even though setbacks in goal striving can occur in all phases of life, still it becomes a more common phenomenon with increasing age (J. Heckhausen et al., 2010). Ageing individuals are confronted with losses in action resources and increasing functional impairments due to age-related biological or social changes that render the achievement of certain personal goals more and more costly or even unrealistic (J. Heckhausen et al., 2010; Rothermund & Brandtstädter, 2003). Despite this undeniable deterioration in circumstances for goal striving in older age, there is an amazing degree of stability in positive emotionality and life satisfaction in middle and late adulthood (e.g., Rothermund & Brandtstädter, 2003). Hence, there must be an effective self-regulatory strategy that helps ageing individuals to cope with goal discrepancies. Among others, goal disengagement, therefore, seems to be an important self-regulatory strategy to secure well-being in the long run by protecting the individual from continuing frustration and the experience of a manifest loss of control (Brandtstädter, 2007; Wrosch, Scheier, Carver, et al., 2003). On this note, two theoretical models from life-span psychology dealing with self-regulation over the life-course explicitly address goal disengagement, (a) *the dual-process model of developmental regulation*, and (b) *the motivational theory of life-span development*.

***The dual-process model of developmental regulation.*** As presented above, Jochen Brandtstädter and colleagues (e.g., Brandtstädter, 2007; Brandtstädter & Rothermund, 2002)

describe two different classes of strategies people have at their disposal to counteract goal discrepancies, namely, the *assimilative* and the *accommodative* modes of coping, the latter of which involves “a devaluation of, or disengagement from, blocked goals and a lowering of personal performance standards and aspirations” (Rothermund & Brandtstädter, 2003, p. 896). In cross-sectional and longitudinal studies, the general hypothesis was tested and confirmed that there is a natural tendency in ageing individuals to lower personal performance standards and aspirations – a form of goal disengagement (Carver & Scheier, 2005; Wrosch et al., 2003). For example, in a cross-sequential panel study, Rothermund and Brandtstädter (2003) found a linear decrease of personal standards (i.e., importance of life domain, importance of keeping up with younger people in the respective domain) across age groups as well as a decrease during the 4-year longitudinal interval within age groups.

Whereas Brandtstädter and colleagues (Brandtstädter, 2007; Rothermund & Brandtstädter, 2003) have confirmed the model’s assumptions cross-sectionally and longitudinally with adults, Greve and colleagues (Meyer & Greve, 2012; Thomsen & Greve, 2013) have broadened the scope of the model by scrutinizing developmental precursors of accommodative coping in childhood and early adolescence. In a first correlational study with  $n = 535$  adolescents aged 11 to 15 years, they showed that “accommodative coping capacities seem to include the ability to view things from different perspectives (as a kind of *cognitive* perspective-changing) and the ability to emotionally disengage from a goal (as a kind of *emotional* perspective-changing)” (Thomsen & Greve, 2013, p. 978). Again, it becomes evident that goal disengagement as one form of accommodative coping seems inextricably linked to cognitive and affective processes.

*The motivational theory of life-span development.* The motivational theory of life-span development starts from the same general assumption as Brandtstädter's (2006) theory and views the individual "as an active producer of his or her own development" (J. Heckhausen et al., 2010, p. 36). One core concept is that of developmental goals (e.g., become more independent from parents, start a career, have children, retire from job) which refer to certain (normative) life transitions frequently tied to so-called developmental deadlines, that is, socio-normative or biologically given time frames within which a developmental stage has to be entered and passed. A closely related concept is that of an age-graded structure of opportunities and constraints along a general life-course trajectory that, with increasing age, is first characterized by an improving and towards old age increasingly deteriorating opportunity structure. Corresponding to the actual opportunity structure, an individual faces different regulatory challenges calling for specific strategies "in terms of identifying and effectively pursuing long-term goals and, when necessary, disengaging from goals that are no longer attainable" (J. Heckhausen et al., 2010, p. 32). Evidently, goal engagement and goal disengagement have to be well-balanced in reference to an individual's resources (e.g., competencies, self-efficacy, and interests) and situational chances and constraints. Fully in accordance with Brandtstädter's propositions, the model by J. Heckhausen et al. postulates that when striving for a goal becomes unattainable or too costly, deactivating the goal is of central importance in order to free up resources for pursuing alternative goals. However, J. Heckhausen and colleagues (2010) go a step further in arguing that disengagement is a process of "restructuring one's goals rather than merely a passive reflection of failure and loss" (p. 38), whereby restructuring of one's goals is thought to mean a distancing from the problematic goal by devaluing it, loosening commitment to it, and deflating confidence

in its attainment. Empirical research, so far, has documented that people choose to disengage from a goal when the opportunities for goal attainment are unfavorable and that goal disengagement is easier when an alternate goal can be pursued (for a summary, see J. Heckhausen et al., 2010, pp. 44-46). However, the dynamic affective, physiological, and cognitive micro-processes in the course of goal disengagement have not been empirically evaluated, an issue that has been addressed by research on the concept of an action crisis (Brandstätter, Herrmann, & Schüler, 2013; Brandstätter & Schüler, 2013), which is outlined in the following section.

**The action crisis: A process-based perspective on goal disengagement in idiographic goals.**

*The action crisis: Conceptualization and measurement.* Whereas the majority of theories have adopted an individual differences perspective on goal disengagement (Brandtstädter & Renner, 1990; Kuhl, 1992; Wrosch, Scheier, Miller, et al., 2003), Brandtstädter (2003), with the construct of an *action crisis*, developed a *process*-oriented approach. Based on the idea that abandoning the pursuit of a goal, which requires the withdrawal of behavioral effort and psychological commitment (Wrosch, Scheier, Miller, et al., 2003), results from a lengthy and difficult process (cf. *incentive-disengagement cycle*; Klinger, 1975), an action crisis has been defined as the critical transitional phase that frequently precedes goal disengagement. An action crisis is characterized by being caught in the decision between goal disengagement and further goal pursuit, an intra-psycho conflict that ultimately may be resolved by either alternative (Brandtstädter et al., 2013; Herrmann & Brandtstädter, 2013). Thus, even though goal disengagement is assumed to be typically introduced and has been shown to be predicted by an



action crisis (Herrmann & Brandstätter, 2014), not every action crisis eventually leads to the abandonment of the goal (e.g., breaking up a relationship, quitting a job, or dropping out of college), on the contrary. However, because abandoning a goal, particularly if a goal is identity-relevant (Gollwitzer & Kirchhof, 1998), “can shake one’s self-image to its core” (Carver & Scheier, 2005, p. 536), an action crisis may persist over a long period of time, even if consciously recognized as a conflict to be resolved (Herrmann & Brandstätter, 2013).

The construct of an action crisis is based on a mixed idiographic-nomothetic approach (Brunstein, 1993) whereby concrete *idiographic* goals<sup>2</sup> are assessed along a set of *nomothetic* variables (e.g., action crisis). The extent to which an action crisis is experienced in a personal (i.e., idiographic) goal has been operationalized by the *Action Crisis Scale (ACRISS)* (Brandstätter & Schüler, 2013). The ACRISS consists of six items (e.g., “I doubt whether I should continue striving for my goal or disengage from it.”) focusing on different aspects of goal striving (i.e., conflict, setbacks, implemental disorientation, rumination, disengagement impulses, and procrastination) assumed to be constitutive of a post-decisional goal conflict (Brandstätter et al., 2013; Brandstätter & Schüler, 2013).

As the decision to abandon the pursuit of a goal typically marks the end of a lengthy and difficult process (Klinger, 1975), which from start to finish is characterized by an intra-psychic decisional conflict, the ACRISS (Brandstätter & Schüler, 2013) is especially suited to monitor the dynamics (i.e., ups and downs) of disengagement processes. If applied repeatedly, the ACRISS, for example, enables the identification of relevant antecedents (e.g., dispositional variables, goal characteristics, or contextual factors), underlying mediating mechanisms (e.g., accommodative processes; cf. Brandtstädter & Renner, 1990), and consequences (e.g., for focal

or alternative goals, health and well-being) of an increasingly severe action crisis that eventually climaxes in goal disengagement. Basic knowledge of these dynamics, furthermore, may provide a basis for the development of interventions aimed at the prevention and/or resolution of an action crisis and thereby premature abandonment of a personal goal (Brandstätter et al., 2013). A prerequisite to the application of interventions, however, is the identification of variables (e.g., level of suffering, goal characteristics, or personality style) that, in a given situation, indicate whether disengaging from or further pursuing the goal represents the more adaptive response to the conflict. To provide an universally valid and applicable answer to this question, without an in-depth analysis of the individual case (e.g., in the therapeutic process), seems to be a fairly difficult task and ethically questionable.

***The action crisis as a theoretical advancement of existing motivational theories.***

Theoretically, the concept of an action crisis has originally been developed within the framework of the *Rubicon model of action phases* (Gollwitzer, 1990; H. Heckhausen & Gollwitzer, 1987) that, in the more recent literature, has also been referred to as *mindset theory of action phases* (Gollwitzer, 2012). Therein, the course of action is conceptualized “as a temporal, horizontal path starting with a person’s desires and ending with the evaluation of the achieved action outcome” (Gollwitzer, 1990, p. 53). More specifically, four consecutive *action phases*, each associated with a specific task to be completed, are hypothesized to represent the major steps on the path to successful goal attainment. A goal has to be (a) carefully selected among a number of alternatives (*predecisional phase*), (b) planned in advance (*postdecisional / preactional phase*), (c) actively pursued (*actional phase*), and finally, if successfully attained, (d) systematically evaluated regarding future implications (*post-actional / evaluative phase*). Mindset theory,

therefore, provides a comprehensive framework that theoretically integrates motivational processes of *goal setting* (i.e., deliberation and evaluation) and volitional processes of *goal striving* (i.e., planning and acting) (Gollwitzer, 2012).

Mindset theory is primarily based on the empirically strongly supported assumption that the pursuit of a goal, in each of the previously listed action phases, is facilitated by the activation of a cognitive orientation (i.e., mindset) that meets the respective task requirements (Gollwitzer, 2012). The decision process in the motivational pre-decisional phase, for example, benefits from and has been demonstrated to be characterized by *open-mindedness* (i.e., heightened receptivity to new information) and impartiality (i.e., unbiased inferences). In the volitional (pre-actional and actional) phases, by contrast, performance has been reported to be optimized by selectively analyzing (*closed-mindedness*) and partially evaluating (goal-related) information and thereby shielding the focal goal from distractions, temptations, and competing alternatives (cf. goal shielding; Gollwitzer & Sheeran, 2006).

The motivational and volitional action phases are assumed to be separated by “clear boundaries” (Achtziger & Gollwitzer, 2010, p. 276) and, as a consequence, “preclude each other” (Gollwitzer & Bayer, 1999, p. 419). Thus, in theory, a goal, once implemented, should be shielded from disruptive influences by the volitional mindset as long as the goal has not been attained, even or rather especially under unfavorable conditions (e.g., negative performance feedback; cf. Nenkov & Gollwitzer, 2012, p. 118). However, as J. Heckhausen et al. (2010) in their seminal work on the *motivational theory of life-span development* have pointed out:

*A shift [emphasis added] from a volitional mindset directed at the implementation of goal pursuit to a motivational mindset that deliberates the validity of one’s goal choice may*

occur when failure in goal progress has become hard to ignore (i.e., multiple failures, high costs) and the associated increase in negative affect or decrease in positive affect reaches a certain threshold. (p. 39)

Completely in accordance with the ideas outlined above, experiencing an action crisis – or rather *re*-evaluating “the validity of one’s goal choice” (J. Heckhausen et al., 2010, p. 39) – has been found to be accompanied by a “mindset shift” (Brandstätter & Schüler, 2013, p. 551). Experimentally and longitudinally, on a cognitive as well as neural level, an action crisis was associated with increased cost-benefit thinking and thereby a reduction of the volitional bias (Brandstätter & Schüler, 2013; Herrmann, Baur, Brandstätter, Hänggi, & Jäncke, 2014).

Whereas mindset theory substantially contributes to the understanding of persistent goal striving, no attention has been paid to goal disengagement processes (Gollwitzer, 2012), a gap that may have been filled by the concept of an action crisis. Research on the antecedents, mediating mechanisms, and consequences of an action crisis has the potential to expand the scope of mindset theory to undesirable and/or unattainable goals that, in the midst of goal pursuit, are called into question and for which disengagement becomes an option (Brandstätter et al., 2013; Brandstätter & Schüler, 2013).

Although the concept has neither been explicitly defined nor operationalized, the action crisis as a critical phase in goal striving has been referred to as an important area of future research in an array of influential motivational theories. Carver and Scheier (1990), for example, the originators of *control theory*, assumed that people who encounter difficulties in the pursuit of a goal “step *outside the behavioral stream* [emphasis added] momentarily and assess the likelihood that the desired outcome will occur, given further effort” (p. 20). Similarly,

Brandtstädter and Rothermund (2002) theorized about a conflict between assimilative and accommodative tendencies resulting from the repeated frustration of goal-directed efforts and being characterized by “a wavering between holding on and letting go and . . . corresponding doubts” (p. 123). Therefore, it was concluded that the “management of *interphase transitions* [emphasis added] between goal engagement and disengagement . . . [is] ripe for future investigation” (J. Heckhausen et al., 2010, p. 51).

***Consequences of action crises on cognition, affect, and behavior.*** An action crisis, by instigating a mindset shift (Brandstätter & Schüler, 2013; Herrmann et al., 2014), should partially restore pre-decisional open-mindedness and impartiality and thereby result in a more realistic goal evaluation (Gollwitzer, 2012). Accordingly, an action crisis, longitudinally (i.e., over a semester of 14 weeks), led to a decrease in goal desirability and attainability (Brandstätter et al., 2013), a devaluation that may be interpreted as an indication of reduced goal shielding (Gollwitzer & Sheeran, 2006) and the result of accommodative processes facilitating goal disengagement (Brandtstädter & Rothermund, 2002).

An action crisis not only stimulates the unbiased re-evaluation of the focal goal but likewise provides a new impetus to the reconsideration of originally rejected or entirely new alternatives. As a consequence, the focal goal, in an action crisis, should largely lose its predominance over alternatives whereby the competition for resources becomes intensified (Shah & Kruglanski, 2002). A competition for resources, however, exists not merely between the focal goal and competing alternatives that become more salient in an action crisis (Shah, Friedman, & Kruglanski, 2002), but also between the cognitively conflicting tasks of striving for the focal goal (“how” level) and re-evaluating it (“why” level) – both of which demand attention and

resolution (Kruglanski et al., 2002; Trope & Liberman, 2010). An action crisis, thus, includes *doing the splits* between re-evaluating and pursuing a goal, that is, between a motivational and a volitional task, while the mindset is not ideally tuned to either of them (cf. cognitive tuning; Gollwitzer, Heckhausen, & Steller, 1990).

The consequences of an intra-psychic decisional conflict for an individual's cognitive orientation (Gollwitzer, 2012) have been examined on a cognitive and neural level. Cognitively, Brandstätter and Schöler (2013, Study 2) found an action crisis to increase the recognition of motivationally in comparison to volitionally structured sentences. Following an incidental learning task (Nairne, Thompson, & Pandeirada, 2007), in which the letter *R/r* had to be counted in an array of statements, participants in an experimentally induced action crisis (vs. a no-action crisis control group) evinced a significantly weaker performance for implementation- in comparison to cost-benefit-related statements in an unexpected recognition task. With respect to the spontaneous deliberation of goal-related costs and benefits in everyday life, experiencing an action crisis lead to similar results. An action crisis, in a longitudinal study with a student sample over one semester, gave rise to an increased and *unbiased* deliberation of goal-related costs and benefits and thereby counteracted volitional goal shielding (Herrmann et al., 2014, Study 1). Neurally and in a quasi-experimental study, the extent of experienced action crises across three personal goals could be linked to enhanced fronto-accumbal connectivity, a result that may be interpreted as evidence for an increased impact of goal-relevant and -irrelevant (e.g., temptations) costs and benefits on the prefrontally controlled pursuit of long-term goals (Herrmann et al., 2014, Study 2).

Whereas an action crisis enables the reevaluation of the goal from an objective perspective and thereby, at least in theory, supports an adequate resolution of the conflict, a mindset shift, as outlined above, counteracts the shielding effect of the volitional mindset (Gollwitzer & Sheeran, 2006) and therefore is likely to obstruct the *pursuit* of the goal. Consistent with this line of reasoning, in a field study with male marathon runners, an action crisis (with respect to the goal of running marathons) two weeks prior to the race was inversely associated with running performance, even when controlling for age, body mass index (BMI), marathon experience, training activities, and physical complaints (Brandstätter et al., 2013). Further empirical evidence in support of the idea that the reconsideration of alternative goals in an action crisis interferes with goal pursuit has been provided by research on the *theory of goal systems* (Kruglanski et al., 2002). Shah and Kruglanski (2002), for example, found the priming of alternative goals to undermine goal commitment, hamper goal progress, and hinder the development of effective goal-directed means.

Because “the self is partly made up of the person’s goals” (Carver & Scheier, 2005, p. 528), an action crisis and therefore the questioning of the pillars of self-esteem gives rise to a painful process. As anticipated by Brandtstädter and Rothermund (2002), “such *unstable action orientations* [emphasis added] are experienced as stressful and also seem to involve an increase in neuroendocrinological parameters of stress such as plasma cortisol levels” (p. 123). As predicted, an action crisis, cross-sectionally as well as longitudinally (over a time period of 14 weeks), has been found to be accompanied by a decline in subjective health (e.g., sleeping disorders) and well-being (i.e., affect and life satisfaction) parameters. Furthermore, in the above mentioned field study with marathon runners, in which saliva cortisol was measured at the

kilometers 10, 20, 30, and 40, an action crisis was predictive of a stronger cortisol secretion (i.e., slope) during the race (Brandstätter et al., 2013; Herrmann & Brandstätter, 2013).

***Determinants of an action crisis.*** In two longitudinal studies, action orientation (Kuhl, 1994a) could be identified as a predictor of the development of action crises over time. Multigroup analyses (Byrne, 2004) indicated that action orientation prevented the development (*shielding effect*) as well as supported the resolution (*resolution effect*) of action crises. At least cross-sectionally, these effects were mediated by increased *goal self-concordance*, defined as the extent to which a goal is consistent with one's core values and interests (Herrmann & Brandstätter, 2013; Sheldon & Elliot, 1999). In the terminology of PSI theory (Kuhl, 2000a), the above reported *shielding effect* may be explained by the fact that action (vs. state) orientation, due to facilitated access to *extension memory* (*EM*; cf. above), is characterized by an enhanced “ability to discriminate between conceptions of one's own and conceptions of other's beliefs, desires, and expectations” (Kuhl, 1992, p. 103). Personal goals, as a result, are more likely to be built in accordance with implicit self-representations and therefore less vulnerable to come into conflict. However, if obstacles and setbacks, “contrary to expectation”, are experienced, action-oriented (vs. state-oriented) individuals are typically capable of down-regulating negative affect to – by the activation of *EM* – intuitively integrate problem-solving and potential goal adaptations with implicit self-representations and up-regulating positive affect to activate intuitive behavior control (*IBC*) to continue goal pursuit (Kuhl, 2000a).

***Future directions.*** In light of the consequences for health and well-being as well as the progress in the pursuit of the goal, the significance of the development of interventions aimed at preventing and overcoming action crises becomes evident, especially as there is, to the best of



our knowledge, no research on evidence-based interventions related to goal disengagement. It seems theoretically justified to hypothesize that the experimentally varied deliberation of goal-related costs and benefits (of persistence and goal disengagement), which represent the motivational source of goal striving (Beckmann & Heckhausen, 2008), might affect the experience of an action crisis. Thereby, the effect of the intervention may depend on the origin (self- vs. not self-generated), novelty, and validity of the respective costs and benefits. However, these ideas do not converge with the theoretical work of Brandtstädter and Rothermund (2002) who have reasoned that “we cannot disengage from blocked goals through deliberate decision, nor can we adopt beliefs or valuations that would support such disengagement through an intentional act” (p. 123). Similarly, Jostmann and Koole (2009) have conceptualized goal disengagement as the result of an intuitive and thus not deliberately controlled process. Interventions, therefore, may be more effective if techniques do not (directly) aim at modifying the cognitive evaluation of the goal but (indirectly) focus on the more effective pursuit of the goal, conflicting goals (Emmons & King, 1988), or the availability of adequate substitutes (Rusbult, 1980).

Even though not yet empirically tested, it is theoretically conceivable that an array of self-regulatory strategies directed at motive-congruent (e.g., Baumann, Kuhl, & Kazén, 2005; Job & Brandstätter, 2009) and/or realistic (Oettingen & Gollwitzer, 2009) goal-setting will prove effective in the prevention of action crises. Of these strategies, *mental contrasting*, that is, contrasting the desired future with the present, is not limited to goal-setting but has been shown to result in an adaptation of the level of commitment to the attainability of the goal even after a goal has already been implemented (Mertins, Hoffmann, Kees, & Baumann, 2014). Persistence

in the case of an emerging action crisis may not be heightened merely by mental contrasting, provided the attainability of the goal is high, but likewise the formation of implementation intentions (Gollwitzer, 1999).

Another area of future research is the evaluation of an action crisis' adaptive potential. If a course of action becomes too costly, questioning and devaluing one's goal, evidently, serves an adaptive function, even if an action crisis represents a stressful experience (Klinger, 1975; Nesse, 2000). Depressive realism (cf. Alloy & Abramson, 1988) in an action crisis may represent an important prerequisite for reducing the volitional bias (Gollwitzer, 2012) and the introduction of accommodative processes (Brandtstädter & Rothermund, 2002). However, whether intensity and duration of ruminative thoughts in an action crisis affect the adaptability of (a) corrective interventions in the case of persistence or (b) the formation of substitutive goals in the event of goal disengagement has not been subject to empirical research.

### **Summary and Perspectives for Further Research**

Due to the undeniable importance of personal goals for an individual's sense of identity, disengagement from a goal as a reaction to recurring difficulties and/or increasing costs represents a difficult process that poses a challenge to one's self-regulatory capacities. Fortunately, goal disengagement has found increasing attention in social, organizational, life-span, and motivation psychology in the last years after having been largely neglected for long time. By now, there is unanimous consent on the need to gain a deeper understanding of the cognitive and affective processes involved in goal disengagement and the phase preceding it.

The current state of knowledge regarding goal disengagement can be summarized as follows: First, individuals differ with respect to their ability to disengage from unfruitful goal

strivings and re-engage with alternative goals, respectively. Second, ageing people seem to have at their command a natural tendency to balance goal engagement and goal disengagement in an adequate manner in order to maintain a positive perspective on life despite worsening opportunities for goal achievement. Third, clinging to an unattainable or too costly goal compromises psychological and physical well-being. Fourth, goal disengagement very often is preceded by a conflictual phase, termed action crisis, in which the individual is torn between goal persistence and disengagement. In this phase, a mindset shift occurs that prepares the ground for downgrading the importance and prospects of goal attainment and eventually a loosening of goal commitment.

Future research would have to focus at least on three issues: First, it would be of interest whether the mindset shift occurring in an action crisis also affects the perception of alternatives. For example, it is quite conceivable that the more open-minded focus of attention (as characteristic of the deliberative mindset) supports the identification of alternative goals and hence a more willing disengagement from a goal striving that has gone sour. Second, it is open to further research whether and in which way an action crisis compromises performance. Until now, implications of an action crisis on a behavioral level have not been investigated systematically. Third, possible interventions to overcome an action crisis, be it by engaging oneself further in the goal with optimized strategies, be it letting go of the goal, are of paramount importance given the comparatively long duration of action crises.

### References

- Achtziger, A., & Gollwitzer, P. M. (2010). Motivation and volition in the course of action. In J. Heckhausen & H. Heckhausen (Eds.), *Motivation and action* (2nd ed., pp. 275-299). New York, NY: Cambridge University Press.
- Alloy, L. B., & Abramson, L. Y. (1988). Depressive realism: Four theoretical perspectives. In L. B. Alloy (Ed.), *Cognitive processes in depression* (pp. 223-265). New York, NY: Guilford Press.
- Anderson, J. R. (1983). A spreading activation theory of memory. *Journal of Verbal Learning & Verbal Behavior*, 22(3), 261-295. doi: 10.1016/s0022-5371(83)90201-3
- Austin, J. T., & Vancouver, J. B. (1996). Goal constructs in psychology: Structure, process, and content. *Psychological Bulletin*, 120(3), 338-375. doi: <http://dx.doi.org/10.1037/0033-2909.120.3.338>
- Baddeley, A. (1986). *Working memory*. New York, NY: Clarendon Press/Oxford University Press.
- Baumann, N., Kaschel, R., & Kuhl, J. (2007). Affect sensitivity and affect regulation in dealing with positive and negative affect. *Journal of Research in Personality*, 41(1), 239-248. doi: <http://dx.doi.org/10.1016/j.jrp.2006.05.002>
- Baumann, N., Kuhl, J., & Kazén, M. (2005). Left-hemispheric activation and self-infiltration: Testing a neuropsychological model of internalization. *Motivation and Emotion*, 29(3), 135-163. doi: <http://dx.doi.org/10.1007/s11031-005-9439-x>

- Baumeister, R. F. (2002). Ego depletion and self-control failure: An energy model of the self's executive function. *Self and Identity*, 1(2), 129-136. doi: <http://dx.doi.org/10.1080/152988602317319302>
- Beckmann, J., & Heckhausen, H. (2008). Motivation as a function of expectancy and incentive. In J. Heckhausen & H. Heckhausen (Eds.), *Motivation and action* (2nd ed., pp. 99-136). New York, NY: Cambridge University Press.
- Boerner, K. (2004). Adaptation to disability among middle-aged and older adults: The role of assimilative and accommodative coping. *The Journals of Gerontology: Series B: Psychological Sciences and Social Sciences*, 59B(1), 35-42. doi: <http://dx.doi.org/10.1093/geronb/59.1.P35>
- Brandstätter, V. (2003). *Persistenz und Zielablösung [Persistence and goal disengagement]*. Göttingen, Germany: Hogrefe.
- Brandstätter, V., Herrmann, M., & Schüler, J. (2013). The struggle of giving up personal goals: Affective, physiological, and cognitive consequences of an action crisis. *Personality and Social Psychology Bulletin*, 39(12), 1668-1682. doi: <http://dx.doi.org/10.1177/0146167213500151>
- Brandstätter, V., & Schüler, J. (2013). Action crisis and cost-benefit thinking: A cognitive analysis of a goal-disengagement phase. *Journal of Experimental Social Psychology*, 49, 543-553. doi: <http://dx.doi.org/10.1016/j.jesp.2012.10.004>
- Brandtstädter, J. (2006). Adaptive resources in later life: Tenacious goal pursuit and flexible goal adjustment. In M. Csikszentmihalyi & I. S. Csikszentmihalyi (Eds.), *A life worth living*:

- Contributions to positive psychology* (pp. 143-164). New York, NY: Oxford University Press.
- Brandtstädter, J. (2007). *Das flexible Selbst: Selbstentwicklung zwischen Zielbindung und Ablösung [The flexible self: Self-development between goal commitment and disengagement]*. Munich, Germany: Elsevier.
- Brandtstädter, J. (2009). Goal pursuit and goal adjustment: Self-regulation and intentional self-development in changing developmental contexts. *Advances in Life Course Research*, 14, 52-62. doi: <http://dx.doi.org/10.1016/j.alcr.2009.03.002>
- Brandtstädter, J., & Felser, G. (2003). *Entwicklung in Partnerschaften: Risiken und Ressourcen [Development in partnership relations. Risks and resources]*. Bern, Switzerland: Huber.
- Brandtstädter, J., & Renner, G. (1990). Tenacious goal pursuit and flexible goal adjustment: Explication and age-related analysis of assimilative and accommodative strategies of coping. *Psychology and Aging*, 5(1), 58-67. doi: <http://dx.doi.org/10.1037/0882-7974.5.1.58>
- Brandtstädter, J., & Rothermund, K. (2002). The life-course dynamics of goal pursuit and goal adjustment: A two-process framework. *Developmental Review*, 22(1), 117-150. doi: <http://dx.doi.org/10.1006/drev.2001.0539>
- Brandtstädter, J., Rothermund, K., Kranz, D., & Kühn, W. (2010). Final decenterations: Personal goals, rationality perspectives, and the awareness of life's finitude. *European Psychologist*, 15(2), 152-163. doi: <http://dx.doi.org/10.1027/1016-9040/a000019>

- Brandtstädter, J., Wentura, D., & Greve, W. (1993). Adaptive resources of the aging self: Outlines of an emergent perspective. *International Journal of Behavioral Development*, 16(2), 323-349. doi: <http://dx.doi.org/10.1177/016502549301600212>
- Brockner, J. (1992). The escalation of commitment to a failing course of action: Toward theoretical progress. *The Academy of Management Review*, 17(1), 39-61. doi: <http://dx.doi.org/10.2307/258647>
- Brockner, J., & Rubin, J. Z. (1985). Entrapment in escalating conflicts: A social psychological analysis. New York, NY: Springer.
- Brunstein, J. C. (1993). Personal goals and subjective well-being: A longitudinal study. *Journal of Personality and Social Psychology*, 65(5), 1061-1070. doi: <http://dx.doi.org/10.1037/0022-3514.65.5.1061>
- Brunstein, J. C., Schultheiss, O. C., & Maier, G. W. (1999). The pursuit of personal goals: A motivational approach to well-being and life adjustment. In J. Brandtstädter & R. M. Lerner (Eds.), *Action & self-development: Theory and research through the life span* (pp. 169-196). Thousand Oaks, CA: Sage Publications, Inc.
- Byrne, B. M. (2004). Testing for multigroup invariance using AMOS Graphics: A road less traveled. *Structural Equation Modeling*, 11(2), 272-300. doi: [http://dx.doi.org/10.1207/s15328007sem1102\\_8](http://dx.doi.org/10.1207/s15328007sem1102_8)
- Cantor, N., Norem, J. K., Niedenthal, P. M., Langston, C. A., & Brower, A. M. (1987). Life tasks, self-concept ideals, and cognitive strategies in a life transition. *Journal of Personality and Social Psychology*, 53(6), 1178-1191. doi: <http://dx.doi.org/10.1037/0022-3514.53.6.1178>

- Carver, C. S., & Scheier, M. F. (1990). Origins and functions of positive and negative affect: A control-process view. *Psychological Review*, 97(1), 19-35. doi: <http://dx.doi.org/10.1037/0033-295X.97.1.19>
- Carver, C. S., & Scheier, M. F. (1998). *On the self-regulation of behavior*. New York, NY: Cambridge University Press.
- Carver, C. S., & Scheier, M. F. (2005). Engagement, disengagement, coping, and catastrophe. In A. J. Elliot & C. S. Dweck (Eds.), *Handbook of competence and motivation* (pp. 527-547). New York, NY: Guilford Publications.
- Castonguay, A. L., Wrosch, C., & Sabiston, C. M. (2014). Systemic inflammation among breast cancer survivors: the roles of goal disengagement capacities and health-related self-protection. *Psycho-Oncology*. doi: <http://dx.doi.org/10.1002/pon.3489>
- de Lange, M. A., & van Knippenberg, A. (2009). To err is human: How regulatory focus and action orientation predict performance following errors. *Journal of Experimental Social Psychology*, 45(6), 1192-1199. doi: <http://dx.doi.org/10.1016/j.jesp.2009.07.009>
- Dunne, E., Wrosch, C., & Miller, G. E. (2011). Goal disengagement, functional disability, and depressive symptoms in old age. *Health Psychology*, 30(6), 763-770. doi: <http://dx.doi.org/10.1037/a0024019>
- Emmons, R. A. (1986). Personal strivings: An approach to personality and subjective well-being. *Journal of Personality and Social Psychology*, 51(5), 1058-1068. doi: <http://dx.doi.org/10.1037/0022-3514.51.5.1058>
- Emmons, R. A., & King, L. A. (1988). Conflict among personal strivings: Immediate and long-term implications for psychological and physical well-being. *Journal of Personality and*



- Social Psychology*, 54(6), 1040-1048. doi: <http://dx.doi.org/10.1037/0022-3514.54.6.1040>
- Feather, N. T. (1962). The study of persistence. *Psychological Bulletin*, 59(2), 94-115. doi: <http://dx.doi.org/10.1037/h0042645>
- Festinger, L. (1957). *A theory of cognitive dissonance*. Stanford, CA: Stanford University Press.
- Förster, J., Liberman, N., & Higgins, E. T. (2005). Accessibility from active and fulfilled goals. *Journal of Experimental Social Psychology*, 41(3), 220-239. doi: <http://dx.doi.org/10.1016/j.jesp.2004.06.009>
- Frazier, L. D., Newman, F. L., & Jaccard, J. (2007). Psychosocial outcomes in later life: A multivariate model. *Psychology and Aging*, 22(4), 676-689. doi: <http://dx.doi.org/10.1037/0882-7974.22.4.676>
- Freitas, A. L., Clark, S. L., Kim, J. Y., & Levy, S. R. (2009). Action-construal levels and perceived conflict among ongoing goals: Implications for positive affect. *Journal of Research in Personality*, 43(5), 938-941. doi: <http://dx.doi.org/10.1016/j.jrp.2009.05.006>
- Gollwitzer, P. M. (1990). Action phases and mind-sets. In T. Higgins & R. M. Sorrentino (Eds.), *Handbook of motivation and cognition: Foundations of social behavior* (Vol. 2, pp. 53-92). New York, NY: Guilford Press.
- Gollwitzer, P. M. (1999). Implementation intentions: Strong effects of simple plans. *American Psychologist*, 54(7), 493-503. doi: <http://dx.doi.org/10.1037/0003-066x.54.7.493>
- Gollwitzer, P. M. (2012). Mindset theory of action phases. In P. Lange, A. W. Kruglanski & T. E. Higgins (Eds.), *Handbook of theories of social psychology* (Vol. 1, pp. 526-545). Thousand Oaks, CA: Sage Publications Ltd.

- Gollwitzer, P. M., & Bayer, U. (1999). Deliberative versus implemental mindsets in the control of action. In S. Chaiken & Y. Trope (Eds.), *Dual-process theories in social psychology* (pp. 403-422). New York, NY: Guilford Press.
- Gollwitzer, P. M., Heckhausen, H., & Steller, B. (1990). Deliberative and implemental mindsets: Cognitive tuning toward congruous thoughts and information. *Journal of Personality and Social Psychology*, 59(6), 1119-1127. doi: <http://dx.doi.org/10.1037/0022-3514.59.6.1119>
- Gollwitzer, P. M., & Kirchhof, O. (1998). The willful pursuit of identity. In J. Heckhausen & C. S. Dweck (Eds.), *Motivation and self-regulation across the life span* (pp. 389-423). New York, NY: Cambridge University Press.
- Gollwitzer, P. M., & Sheeran, P. (2006). Implementation intentions and goal achievement: A meta-analysis of effects and processes. In M. P. Zanna (Ed.), *Advances in experimental social psychology* (Vol. 38, pp. 69-119). San Diego, CA: Elsevier Academic Press.
- Goschke, T., & Kuhl, J. (1993). Representation of intentions: Persisting activation in memory. *Journal of Experimental Psychology: Learning, Memory, and Cognition*, 19(5), 1211-1226. doi: <http://dx.doi.org/10.1037/0278-7393.19.5.1211>
- Heckhausen, H., & Gollwitzer, P. M. (1987). Thought contents and cognitive functioning in motivational versus volitional states of mind. *Motivation and Emotion*, 11(2), 101-120. doi: <http://dx.doi.org/10.1007/BF00992338>
- Heckhausen, H., & Strang, H. (1988). Efficiency under record performance demands: Exertion control—an individual difference variable? *Journal of Personality and Social Psychology*, 55(3), 489-498. doi: <http://dx.doi.org/10.1037/0022-3514.55.3.489>

- Heckhausen, J. (2000). Evolutionary perspectives on human motivation. *American Behavioral Scientist*, 43(6), 1015-1029. doi: <http://dx.doi.org/10.1177/00027640021955739>
- Heckhausen, J., & Heckhausen, H. (2010a). *Motivation and action* (2nd ed.). New York, NY: Cambridge University Press.
- Heckhausen, J., & Heckhausen, H. (2010b). Motivation und Entwicklung [motivation and development]. In J. Heckhausen & H. Heckhausen (Eds.), *Motivation und Handeln* (pp. 427-488). Berlin, Germany: Springer.
- Heckhausen, J., Wrosch, C., & Schulz, R. (2010). A motivational theory of life-span development. *Psychological Review*, 117(1), 32-60. doi: <http://dx.doi.org/10.1037/a0017668>
- Herrmann, M., Baur, V., Brandstätter, V., Hänggi, J., & Jäncke, L. (2014). Being in two minds: The neural basis of experiencing action crises in personal long-term goals. *Social Neuroscience*. doi: <http://dx.doi.org/10.1080/17470919.2014.933715>
- Herrmann, M., & Brandstätter, V. (2013). Overcoming action crises in personal goals – Longitudinal evidence on a mediating mechanism between action orientation and well-being. *Journal of Research in Personality*, 47(6), 881-893. doi: <http://dx.doi.org/10.1016/j.jrp.2013.09.005>
- Herrmann, M., & Brandstätter, V. (2014). *Action crises and goal disengagement: Longitudinal evidence on the predictive validity of a motivational phase in goal striving*. Manuscript in preparation.
- Higgins, E. T. (2009). Regulatory fit in the goal-pursuit process. In G. B. Moskowitz & H. Grant (Eds.), *The psychology of goals*. (pp. 505-533). New York, NY: Guilford Press.

- Job, V., & Brandstätter, V. (2009). Get a taste of your goals: Promoting motive goal congruence through affect-focus goal fantasy. *Journal of Personality*, 77(5), 1527-1559. doi: 10.1111/j.1467-6494.2009.00591.x
- Jostmann, N. B., & Koole, S. L. (2009). When persistence is futile: A functional analysis of action orientation and goal disengagement. In G. B. Moskowitz & H. Grant (Eds.), *The psychology of goals*. (pp. 337-361). New York, NY: Guilford Press.
- Jostmann, N. B., Koole, S. L., van der Wulp, N. Y., & Fockenberg, D. A. (2005). Subliminal affect regulation: The moderating role of action vs. state orientation. *European Psychologist*, 10(3), 209-217. doi: <http://dx.doi.org/10.1027/1016-9040.10.3.209>
- Kahneman, D., & Tversky, A. (1979). Prospect theory: An analysis of decisions under risk. *Econometrica*, 47, 263-291.
- Klein, K., & Boals, A. (2001). The relationship of life event stress and working memory capacity. *Applied Cognitive Psychology*, 15(5), 565-579. doi: <http://dx.doi.org/10.1002/acp.727>
- Klinger, E. (1969). Development of imaginative behavior: Implications of play for a theory of fantasy. *Psychological Bulletin*, 72(4), 277-298. doi: <http://dx.doi.org/10.1037/h0028065>
- Klinger, E. (1975). Consequences of commitment to and disengagement from incentives. *Psychological Review*, 82(1), 1-25. doi: <http://dx.doi.org/10.1037/h0076171>
- Klinger, E. (1977). *Meaning & void: Inner experience and the incentives in people's lives*. Minneapolis, MN: University of Minnesota Press.

- Koole, S. L., & Jostmann, N. B. (2004). Getting a grip on your feelings: Effects of action orientation and external demands on intuitive affect regulation. *Journal of Personality & Social Psychology*, 87(6), 974-990.
- Kruglanski, A. W., Shah, J. Y., Fishbach, A., Friedman, R., Chun, W. Y., & Sleeth-Keppler, D. (2002). A theory of goal systems. In M. P. Zanna (Ed.), *Advances in experimental social psychology* (Vol. 34, pp. 331-378). San Diego, CA: Academic Press.
- Kuhl, J. (1981). Motivational and functional helplessness: The moderating effect of state versus action orientation. *Journal of Personality and Social Psychology*, 40(1), 155-170. doi: <http://dx.doi.org/10.1037/0022-3514.40.1.155>
- Kuhl, J. (1992). A theory of self-regulation: Action versus state orientation, self-discrimination, and some applications. *Applied Psychology: An International Review*, 41(2), 97-129. doi: <http://dx.doi.org/10.1111/j.1464-0597.1992.tb00688.x>
- Kuhl, J. (1994a). Action versus state orientation: Psychometric properties of the Action Control Scale (ACS-90). In J. Kuhl & J. Beckmann (Eds.), *Volition and personality: Action versus state orientation* (pp. 47-59). Göttingen, Germany: Hogrefe.
- Kuhl, J. (1994b). A theory of action and state orientation. In J. Kuhl & J. Beckmann (Eds.), *Volition and personality: Action versus state orientation* (pp. 9-46). Göttingen, Germany: Hogrefe.
- Kuhl, J. (2000a). A functional-design approach to motivation and self-regulation: The dynamics of personality systems interactions. In M. Boekaerts, P. R. Pintrich & M. Zeidner (Eds.), *Handbook of self-regulation* (pp. 111-169). San Diego, CA: Academic Press.

- Kuhl, J. (2000b). The volitional basis of personality systems interaction theory: Applications in learning and treatment contexts. *International Journal of Educational Research*, 33, 665-703.
- Kuhl, J., & Kazen-Saad, M. (1988). A motivational approach to volition: Activation and de-activation of memory representations related to uncompleted intentions. In V. Hamilton, G. H. Bower & N. H. Frijda (Eds.), *Cognitive perspectives on emotion and motivation* (Vol. 44, pp. 63-85). New York, NY: Kluwer Academic/Plenum Publishers.
- Little, B. R. (1983). Personal projects: A rationale and method for investigation. *Environment and Behavior*, 15(3), 273-309. doi: <http://dx.doi.org/10.1177/0013916583153002>
- Marsh, R. L., Hicks, J. L., & Bink, M. L. (1998). Activation of completed, uncompleted, and partially completed intentions. *Journal of Experimental Psychology: Learning, Memory, and Cognition*, 24(2), 350-361. doi: <http://dx.doi.org/10.1037/0278-7393.24.2.350>
- Martin, L. L., & Tesser, A. (1996). Some ruminative thoughts. In R. S. Wyer, Jr. (Ed.), *Ruminative thoughts* (pp. 1-47). Hillsdale, NJ England: Lawrence Erlbaum Associates, Inc.
- Martin, L. L., Tesser, A., & McIntosh, W. D. (1993). Wanting but not having: The effects of unattained goals on thoughts and feelings. In D. M. Wegner & J. W. Pennebaker (Eds.), *Handbook of mental control* (pp. 552-572). Englewood Cliffs, NJ: Prentice-Hall, Inc.
- Mertins, V., Hoffmann, M., Kees, M.-C., & Baumann, N. (2014). *Academia mania? - Promoting educational efficiency through self-regulation* Manuscript submitted for publication.
- Meyer, T., & Greve, W. (2012). Die Entwicklungsbedingungen der Adaptivität: Theoretische Überlegungen und empirische Befunde zu einem Entwicklungsmodell akkommodativer

- Regulationskompetenz [Developmental conditions of adaptivity: Theoretical considerations and empirical findings on a developmental model of accommodative regulation competencies]. *Zeitschrift für Gesundheitspsychologie*, 20(1), 27-38. doi: <http://dx.doi.org/10.1026/0943-8149/a000059>
- Miller, G. E., & Wrosch, C. (2007). You've gotta know when to fold 'em: Goal disengagement and systemic inflammation in adolescence. *Psychological Science*, 18(9), 773-777. doi: <http://dx.doi.org/10.1111/j.1467-9280.2007.01977.x>
- Moskowitz, G. B., & Grant, H. (2009). *The psychology of goals*. New York, NY: Guilford Press.
- Myers, D. G., & Diener, E. (1995). Who is happy? *Psychological Science*, 6(1), 10-19. doi: <http://dx.doi.org/10.1111/j.1467-9280.1995.tb00298.x>
- Nairne, J. S., Thompson, S. R., & Pandeirada, J. N. (2007). Adaptive memory: Survival processing enhances retention. *Journal of Experimental Psychology: Learning, Memory, and Cognition*, 33(2), 263-273. doi: <http://dx.doi.org/10.1037/0278-7393.33.2.263>
- Nenkov, G. Y., & Gollwitzer, P. M. (2012). Pre- versus postdecisional deliberation and goal commitment: The positive effects of defensiveness. *Journal of Experimental Social Psychology*, 48(1), 106-121. doi: <http://dx.doi.org/10.1016/j.jesp.2011.08.002>
- Nesse, R. M. (1998). Emotional disorders in evolutionary perspective. *British Journal of Medical Psychology*, 71(4), 397-415. doi: <http://dx.doi.org/10.1111/j.2044-8341.1998.tb01000.x>
- Nesse, R. M. (2000). Is depression an adaptation? *Archives of General Psychiatry*, 57(1), 14-20. doi: <http://dx.doi.org/10.1001/archpsyc.57.1.14>
- Oettingen, G., & Gollwitzer, P. M. (2009). Making goal pursuit effective: Expectancy-dependent goal setting and planned goal striving. In J. P. Forgas, R. F. Baumeister & D. M. Tice

- (Eds.), *Psychology of self-regulation: Cognitive, affective, and motivational processes*. (Vol. 11, pp. 127-146). New York, NY: Psychology Press.
- Rothermund, K., & Brandtstädter, J. (2003). Coping with deficits and losses in later life: From compensatory action to accommodation. *Psychology and Aging*, 18(4), 896-905. doi: <http://dx.doi.org/10.1037/0882-7974.18.4.896>
- Rusbult, C. E. (1980). Commitment and satisfaction in romantic associations: A test of the investment model. *Journal of Experimental Social Psychology*, 16(2), 172-186. doi: <http://dx.doi.org/10.1016/0022-1031%2880%2990007-4>
- Schmitz, U., Saile, H., & Nilges, P. (1996). Coping with chronic pain: flexible goal adjustment as an interactive buffer against pain-related distress. *Pain*, 67(1), 41-51. doi: [http://dx.doi.org/10.1016/0304-3959\(96\)03108-9](http://dx.doi.org/10.1016/0304-3959(96)03108-9)
- Schultze, T., Pfeiffer, F., & Schulz-Hardt, S. (2012). Biased information processing in the escalation paradigm: Information search and information evaluation as potential mediators of escalating commitment. *Journal of Applied Psychology*, 97(1), 16-32. doi: <http://dx.doi.org/10.1037/a0024739>
- Shah, J. Y., Friedman, R., & Kruglanski, A. W. (2002). Forgetting all else: On the antecedents and consequences of goal shielding. *Journal of Personality and Social Psychology*, 83(6), 1261-1280. doi: <http://dx.doi.org/10.1037/0022-3514.83.6.1261>
- Shah, J. Y., & Kruglanski, A. W. (2002). Priming against your will: How accessible alternatives affect goal pursuit. *Journal of Experimental Social Psychology*, 38(4), 368-383. doi: [http://dx.doi.org/10.1016/S0022-1031\(02\)00005-7](http://dx.doi.org/10.1016/S0022-1031(02)00005-7)



- Sheldon, K. M., & Elliot, A. J. (1999). Goal striving, need satisfaction, and longitudinal well-being: The self-concordance model. *Journal of Personality and Social Psychology*, 76(3), 482-497. doi: <http://dx.doi.org/10.1037/0022-3514.76.3.482>
- Staw, B. M. (1976). Knee-deep in the Big Muddy: A study of escalating commitment to a chosen course of action. *Organizational Behavior & Human Performance*, 16(1), 27-44. doi: [http://dx.doi.org/10.1016/0030-5073\(76\)90005-2](http://dx.doi.org/10.1016/0030-5073(76)90005-2)
- Staw, B. M. (1981a). Escalation of commitment. *PsycCRITIQUES*, 26(1), 21-22. doi: <http://dx.doi.org/10.1037/019608>
- Staw, B. M. (1981b). The escalation of commitment to a course of action. *Academy of Management Review*, 6(4), 577-587. doi: <http://dx.doi.org/10.5465/amr.1981.4285694>
- Staw, B. M. (1997). The escalation of commitment: An update and appraisal. In Z. Shapira (Ed.), *Organizational decision making* (pp. 191-215). New York, NY: Cambridge University Press.
- Thomsen, T., & Greve, W. (2013). Accommodative coping in early adolescence: An investigation of possible developmental components. *Journal of Adolescence*, 36(5), 971-981. doi: <http://dx.doi.org/10.1016/j.adolescence.2013.08.003>
- Trope, Y., & Liberman, N. (2010). Construal-level theory of psychological distance. *Psychological Review*, 117(2), 440-463. doi: <http://dx.doi.org/10.1037/a0018963>
- Vallacher, R. R., & Wegner, D. M. (2012). Action identification theory. In P. A. M. Van Lange, A. W. Kruglanski & E. T. Higgins (Eds.), *Handbook of theories of social psychology* (Vol. 1, pp. 327-348). Thousand Oaks, CA: Sage Publications Ltd.

- Wenzlaff, R. M., & Wegner, D. M. (2000). Thought suppression. *Annual Review of Psychology*, 51, 59-91. doi: <http://dx.doi.org/10.1146/annurev.psych.51.1.59>
- Wicklund, R. A., & Gollwitzer, P. M. (1981). Symbolic self-completion, attempted influence, and self-deprecation. *Basic and Applied Social Psychology*, 2(2), 89-114. doi: [http://dx.doi.org/10.1207/s15324834basp0202\\_2](http://dx.doi.org/10.1207/s15324834basp0202_2)
- Wong, K. F. E., & Kwong, J. Y. Y. (2007). The role of anticipated regret in escalation of commitment. *Journal of Applied Psychology*, 92(2), 545-554. doi: <http://dx.doi.org/10.1037/0021-9010.92.2.545>
- Wong, K. F. E., Yik, M., & Kwong, J. Y. Y. (2006). Understanding the emotional aspects of escalation of commitment: The role of negative affect. *Journal of Applied Psychology*, 91(2), 282-297. doi: <http://dx.doi.org/10.1037/0021-9010.91.2.282>
- Wrosch, C. (2011). Self-regulation of unattainable goals and pathways to quality of life. In S. Folkman (Ed.), *The Oxford handbook of stress, health, and coping* (pp. 319-333). New York, NY: Oxford University Press.
- Wrosch, C., Amir, E., & Miller, G. E. (2011). Goal adjustment capacities, coping, and subjective well-being: The sample case of caregiving for a family member with mental illness. *Journal of Personality and Social Psychology*, 100(5), 934-946. doi: <http://dx.doi.org/10.1037/a0022873>
- Wrosch, C., Bauer, I., & Scheier, M. F. (2005). Regret and quality of life across the adult life span: The influence of disengagement and available future goals. *Psychology and Aging*, 20(4), 657-670. doi: <http://dx.doi.org/10.1037/0882-7974.20.4.657>

- Wrosch, C., & Miller, G. E. (2009). Depressive symptoms can be useful: Self-regulatory and emotional benefits of dysphoric mood in adolescence. *Journal of Personality and Social Psychology*, 96(6), 1181-1190. doi: <http://dx.doi.org/10.1037/a0015172>
- Wrosch, C., Miller, G. E., Scheier, M. F., & Brun de Pontet, S. (2007). Giving up on unattainable goals: Benefits for health? *Personality and Social Psychology Bulletin*, 33(2), 251-265. doi: <http://dx.doi.org/10.1177/0146167206294905>
- Wrosch, C., & Sabiston, C. M. (2013). Goal adjustment, physical and sedentary activity, and well-being and health among breast cancer survivors. *Psycho-Oncology*, 22(3), 581-589. doi: <http://dx.doi.org/10.1002/pon.3037>
- Wrosch, C., Scheier, M. F., Carver, C. S., & Schulz, R. (2003). The importance of goal disengagement in adaptive self-regulation: When giving up is beneficial. *Self and Identity*, 2(1), 1-20. doi: <http://dx.doi.org/10.1080/15298860309021>
- Wrosch, C., Scheier, M. F., & Miller, G. E. (2013). Goal adjustment capacities, subjective well-being, and physical health. *Social and Personality Psychology Compass*, 7(12), 847-860. doi: <http://dx.doi.org/10.1111/spc3.12074>
- Wrosch, C., Scheier, M. F., Miller, G. E., Schulz, R., & Carver, C. S. (2003). Adaptive self-regulation of unattainable goals: Goal disengagement, goal reengagement, and subjective well-being. *Personality and Social Psychology Bulletin*, 29(12), 1494-1508. doi: <http://dx.doi.org/10.1177/0146167203256921>
- Wyer, R. S., & Srull, T. K. (1986). Human cognition in its social context. *Psychological Review*, 93(3), 322-359. doi: <http://dx.doi.org/10.1037/0033-295X.93.3.322>

- Zeigarnik, B. (1938). On finished and unfinished tasks. In W. D. Ellis (Ed.), *A source book of Gestalt psychology* (pp. 300-314). London, England: Kegan Paul, Trench, Trubner & Company.
- Zhang, L., & Baumeister, R. F. (2006). Your money or your self-esteem: Threatened egotism promotes costly entrapment in losing endeavors. *Personality and Social Psychology Bulletin*, 32(7), 881-893.

### Footnotes

<sup>1</sup>In more recent publications, the *Goal Disengagement* and *Goal Reengagement Scale* have been referred to as the *Goal Adjustment Scale (GAS)* (e.g., Wrosch et al., 2013).

<sup>2</sup>Regarding the level of abstraction (i.e., hierarchicality; cf. Carver & Scheier, 1998; Kruglanski et al., 2002), personal goals, in the present chapter, are used in the tradition of (i.e., analogously to) current concerns (Klinger, 1969), self-defining goals (Wicklund & Gollwitzer, 1981), personal projects (Little, 1983), personal strivings (Emmons, 1986), life tasks (Cantor, Norem, Niedenthal, Langston, & Brower, 1987), “Be” goals (Carver & Scheier, 1998), and super-ordinate goals (Kruglanski et al., 2002).